

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

Application No.:	10/575,904	Examiner:	Watson, Robert C.
Filing Date:	April 14, 2006	Art Unit:	3723
First Inventor:	Keitaro YONEZAWA	Customer No.:	23364
Attorney No.:	YONE3024/JJC/PMB	Confirm. No.:	5549
For:	POSITIONING APPARATUS AND CLAMPING SYSTEM HAVING THE SAME		

**AMENDED APPEAL BRIEF IN RESPONSE TO OFFICE ACTION OF
APRIL 16, 2009**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an amended appeal brief filed pursuant to the applicant's appeal to the Board of Patent Appeals and Interferences from the final rejection of claims 1-3, 7-11, and 17-19 in the above identified application.

The filing of this amended appeal brief is made within one month of the mailing of the Notification of Non-Compliant Appeal Brief on April 16, 2009, and is considered timely.

I. REAL PARTY IN INTEREST

The real party in interest is the assignee of record: KOSMEK LTD. (Hyogo, Japan).

II. RELATED APPEALS AND INTERFERENCES

A notice of appeal was filed in commonly assigned U.S. application no. 10/572,576 on April 23, 2009.

A notice of appeal was filed in commonly assigned U.S. application no. 10/565,503 on December 10, 2008.

A notice of appeal was filed in commonly assigned U.S. application no. 10/570,892 on August 1, 2008.

III. STATUS OF CLAIMS

A. Status of Claims in Proceeding

Claims 1-3, 7-11, and 17-19 are currently pending in the above-identified application.

Claims 1-3, 7-11, and 17-19 are rejected under 35 U.S.C. § 112, second paragraph.

Claims 1-3, 7-11, and 17-19 are also rejected under 35 U.S.C. § 103(a).

Claims 4-6 and 12-16 are canceled.

B. Identification of Appealed Claims

The applicant chooses to appeal from the rejection of claims 1-3, 7-11, and 17-19.

Claims 2, 3, 7-11, and 17-19 depend from claim 1, and their patentability is based on their dependency from claim 1 and their individually recited features.

A copy of all the pending claims, which excludes canceled claims 4-6 and 12-16, as presented in the last entered amendment dated June 23, 2008 is included in the attached Claims Appendix.

IV. STATUS OF AMENDMENTS

There are no outstanding amendments to the claims. The last amendment to the claims was filed on June 23, 2008, and appears to have been entered. The Office action dated August 6, 2008 is responsive to the communication, including the amendment to the claims, filed on June 23, 2008.

V. SUMMARY OF CLAIMED SUBJECT MATTER

For the purposes of appeal, the rejections of claims 1-3, 7-11, and 17-19 are appealed.

A. Claim 1

The embodiment of pending claim 1 requires a positioning apparatus (Figs. 1-3; paragraph [0046]).

The positioning apparatus includes a plug member (12) (Figs. 2-9; paragraphs [0006] and [0049]) projecting from a first block (1) (Figs. 1, 2, 4, 6, and 8; paragraphs [0006], [0047], [0049]) and adapted for insertion into a positioning hole (5) (Figs. 2 and 4-8; paragraphs [0006], [0047], [0049]) formed in a second block (2) (Figs. 2, 4, 6, and 8; paragraphs [0047] and [0049]).

The positioning apparatus also includes a plurality of slide portions (61) (Figs. 2-8; paragraphs [0006] and [0052]) opposed to each other across the plug member (12) (Figs. 2-8; paragraphs [0006], [0052], and [0088]) in an opposed direction (D2) (Figs. 2-8; paragraphs [0006], [0052], and [0088]) and arranged around the plug member (12) (Figs. 2-8; paragraphs [0006], and [0052]) for movement in a first radial direction (D1) (Figs. 2-8; paragraphs [0006], [0053], [0082], [0088], and [0094]) substantially orthogonal to the opposed direction (D2) thereof (Figs. 2-8; paragraphs [0006], [0082], and [0088]).

The positioning apparatus also includes a first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) diametrically expandably and diametrically contractibly and axially movably within a predetermined range arranged outside the slide portions (61) (Figs. 2-8; paragraphs [0006], [0058], [0072], [0076], [0078], [0081], [0100], and [0102]).

The positioning apparatus also includes a second pressing member (19) (Figs. 2-8; paragraphs [0006] and [0054]) diametrically expandably and diametrically contractibly and axially movably within a predetermined range arranged outside the slide portions (61) (Figs. 2-8; paragraphs [0006], [0054], [0055], [0073], [0074],

[0075], [0078], and [0102]) and inside the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]).

The positioning apparatus operates such that the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) is arranged to be driven toward the first block (1) (Figs. 2-8; paragraphs [0006], [0007], [0063], [0081], and [0083]) by a drive arrangement (D) (Figs. 2-8; paragraphs [0006], [0007], [0063], [0081], and [0083]), such that the slide portions (61) (Figs. 2-8; paragraphs [0006] and [0052]) expand the first pressing member (15) (Figs. 2-8; paragraphs [0006], [0058], [0072], [0076], [0078], [0081], [0100], and [0102]) in a second radial direction (D2) (Figs. 2-8; paragraphs [0006], [0058], [0072], [0076], [0078], [0081], [0100], and [0102]) different from the first radial direction (D1) (Figs. 2-8; paragraphs [0006], [0058], [0072], [0076], [0078], [0081], [0100], and [0102]), and such that the slide portions (61) (Figs. 2-8; paragraphs [0006] and [0052]) are moved in the first radial direction (D1) (Figs. 2-8; paragraphs [0006], [0053], [0082], [0088], and [0094]) with respect to the plug member (12) (Figs. 2-9; paragraphs [0006] and [0049]).

B. Dependent claims

The embodiment of pending claim 2 requires the positioning apparatus as discussed above with respect to claim 1 and further includes an inclined outer surface (13) (Figs. 2-8; paragraph [0056]) formed on the second pressing member (19) (Figs. 2-8; paragraph [0056]).

The positioning apparatus also includes an inclined inner surface (17) (Figs. 2-8; paragraph [0059]) enabling a tapering engagement with the inclined outer surface (13) (Figs. 2-8; paragraph [0059]) formed on the first pressing member (15) (Figs. 2-8; paragraph [0059]).

The positioning apparatus also includes an axially movable drive member (21) (Figs. 2, 4, 6, and 8; paragraph [0063]) arranged to be inserted into the plug member (12) (Figs. 2, 4, 6, and 8; paragraph [0063]), said drive member (21) (Figs. 2, 4, 6, and 8; paragraph [0063]) connected to the first pressing member (15) (Figs. 2, 4, 6, and 8; paragraph [0063]).

The drive member (21) (Figs. 2, 4, 6, and 8; paragraphs [0063], [0065], and [0083]) is arranged to move (Figs. 2, 4, 6, and 8; paragraphs [0065], [0081], and [0083]) the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) toward the first block (1) (Figs. 1, 2, 4, 6, and 8; paragraphs [0006], [0047], [0049], [0081], and [0083]) for locking to expand the first pressing member (15) (Figs. 2, 4, 6, 7, and 8; paragraphs [0060], [0065], [0076], [0081], and [0083]) in the second radial direction (D2) (Figs. 2-8; paragraphs [0006], [0058], [0072], [0076], [0081], [0082], [0100], and [0102]) by the tapering engagement (Figs. 2-8; paragraph [0059]) and to bring the first pressing member (15) (Figs. 2, 4, 6, 7, and 8; paragraphs [0060], [0065], [0076], [0081], and [0083]) into close contact with an inner peripheral surface (unlabeled Figs. 2, 4, 6, and 8) of the positioning hole (5) (Figs. 2, 4, 6, 7, and 8; paragraphs [0060], [0076], and [0081]).

The drive member (21) (Figs. 2, 4, 6, and 8; paragraphs [0077] and [0086]) is also arranged to move the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) toward a leading end (unlabeled Figs. 2, 4, 6, and 8) for releasing the diametrically expanded condition of the first pressing member (15) (Figs. 2, 4, 6, and 8; paragraphs [0065], [0077], and [0086]) and thus releasing the closely contacted condition (Figs. 2, 4, 6, and 8; paragraphs [0077] and [0086]).

The embodiment of pending claim 3 requires the positioning apparatus as discussed above with respect to claim 1 and further includes an advancing arrangement (69) (Figs. 2, 4, 6, and 8 ; paragraphs [0073], [0078]) configured to advance the second pressing member (19) (Figs. 2-8; paragraphs [0006] and [0054]) toward a leading end (unlabeled Figs. 2, 4, 6, and 8) (Figs. 2, 4, 6, and 8 ; paragraphs [0073], [0078]).

The embodiment of pending claim 7 requires the positioning apparatus as discussed above with respect to claim 1 and further includes the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) formed in an annular shape (Figs. 2-8; paragraph [0058]).

The embodiment of pending claim 8 requires the positioning apparatus as

discussed above with respect to claim 7 and further includes a slit (51) (Figs. 2-8; paragraph [0058]) formed in the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) to enable the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) to deform in a diametrically expanding direction and a diametrically contracting direction (Figs. 2-8; paragraph [0058]).

The embodiment of pending claim 9 requires the positioning apparatus as discussed above with respect to claim 1 and further includes the second pressing member (19) (Figs. 2-8; paragraphs [0006] and [0054]) formed in an annular shape (Figs. 2-8; paragraphs [0054], and [0055]).

The embodiment of pending claim 10 requires the positioning apparatus as discussed above with respect to claim 9 and further includes a slit (57) (Figs. 2-8; paragraph [0055]) formed in the second pressing member (19) (Figs. 2-8; paragraphs [0006] and [0054]) to enable the second pressing member (19) (Figs. 2-8; paragraphs [0006] and [0054]) to deform in a diametrically expanding direction and a diametrically contracting direction (Figs. 2-8; paragraph [0055]).

The embodiment of pending claim 11 requires the positioning apparatus as discussed above with respect to claim 9 and further includes gaps (A) (Figs. 3, 5, 7, 9; paragraph [0090]) disposed between the second pressing member (19) (Figs. 2-8; paragraphs [0006] and [0054]) and the plug member (12) (Figs. 2-9; paragraphs [0006] and [0049]) in the first radial direction (D1) (Figs. 3, 5, 7, 9; paragraph [0090]).

The embodiment of pending claim 17 requires the positioning apparatus as discussed above with respect to claim 1 and further where the drive arrangement (D) (Figs. 2-8; paragraphs [0006], [0007], [0063], [0081], and [0083]) is configured to move the second block (2) (Figs. 2, 4, 6, and 8; paragraphs [0047] and [0049]) toward a base end (unlabeled Figs. 2, 4, 6, and 8) via the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) such that the first pressing member (15) (Figs. 2-8; paragraphs [0006], and [0058]) comes into close contact (Figs. 2, 4, 6, 7, and 8; paragraphs [0060], [0076], and [0081]) with an inner peripheral surface (unlabeled Figs. 2, 4, 6, and 8; paragraphs [0060], [0076], and [0081]) of the positioning hole (5),

and presses a supported surface (2a) (Fig. 6; paragraphs [0050], [0070]) of the second block (2) (Fig. 6; paragraphs [0050], [0070]) against a support surface (1a) (Fig. 6; paragraphs [0050], [0070]) of the first block (1) (Fig. 6; paragraphs [0050], [0070]).

The embodiment of pending claim 18 requires a clamping system (Figs 20 and 21) (Figs 20 and 21; paragraphs [0185], [0190]) utilizing the positioning apparatus (101, 102) as discussed above with respect to claim 1.

The embodiment of pending claim 19 requires a clamping system (Figs 20 and 21; paragraphs [0185], [0190]) utilizing a plurality of positioning apparatuses (101, 102), wherein at least one of which is a positioning apparatus (101, 102) as discussed above with respect to claim 1.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-3, 7-11, and 17-19 are indefinite under 35 U.S.C. § 112, second paragraph.

Whether claims 1-3, 7, 9, 11, and 17-19 are rendered obvious under 35 U.S.C. § 103(a) by the proposed combination of U.S. publication no. 2003/0160374 (*Yonezawa et al.*) and U.S. patent no. 5,427,349 (*Obrecht*).

Whether claims 8 and 10 are rendered obvious under 35 U.S.C. § 103(a) by the proposed combination of U.S. publication no. 2003/0160374 (*Yonezawa et al.*) and U.S. patent no. 5,427,349 (*Obrecht*) and in further combination with U.S. patent no. 6,604,738 (*Haruna*).

VII. ARGUMENT

As discussed below, claims 1-3, 7-11, and 17-19 satisfy the requirements of clearness and definiteness and are in compliance with 35 U.S.C. § 112, second paragraph. Therefore, reversal of the rejection of claims 1-3, 7-11, and 17-19 is respectfully requested.

As is also discussed in detail below, the basis for the final rejection of claims 1-3, 7-11, and 17-19 does not satisfy the requirements of *prima facie* obviousness of the subject matter recited in the rejected claims. Therefore, reversal of the rejection of claims 1-3, 7-11, and 17-19 is respectfully requested.

A. Claim Rejections

Claims 1-3, 7-11, and 17-19 in this application are rejected as being indefinite under 35 U.S.C. § 112, second paragraph.

Claims 1-3, 7, 9, 11, and 17-19 in this application are rejected under 35 U.S.C. § 103(a) as being unpatentable over the proposed combination of U.S. publication no. 2003/0160374 (*Yonezawa et al.*) and U.S. patent no. 5,427,349 (*Obrecht*).

Claims 8 and 10 in this application are rejected 35 U.S.C. § 103(a) as being unpatentable over the proposed combination of U.S. publication no. 2003/0160374 (*Yonezawa et al.*) and U.S. patent no. 5,427,349 (*Obrecht*) as applied to claims 1, 7, and 9 and further in view of U.S. patent no. 6,604,738 (*Haruna*).

B. Pertinent Law

The law governing the rejection of claims under 35 U.S.C. 112, second paragraph is summarized in MPEP § 2173.02, portions of which are reproduced below.

The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

(A) The content of the particular application disclosure;

(B) The teachings of the prior art; and

(C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

In reviewing a claim for compliance with 35 U.S.C.112, second paragraph, the examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph, by providing clear warning to others as to what constitutes infringement of the patent. See, e.g., *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379, 55 USPQ2d 1279, 1283 (Fed. Cir. 2000). See also *In re Larsen*, No. 01-1092 (Fed. Cir. May 9, 2001) (unpublished) (The preamble of the *Larsen* claim recited only a hanger and a loop but the body of the claim positively recited a linear member. The court observed that the totality of all the limitations of the claim and their interaction with each other must be considered to ascertain the inventor's contribution to the art. Upon review of the claim in its entirety, the court concluded that the claim at issue apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112 paragraph 2.). >See also *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366, 71 USPQ2d 1081, 1089 (Fed. Cir. 2004) ("The requirement to 'distinctly' claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles. Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite.").

Turning to obviousness, in rejecting claims under 35 U.S.C. § 103(a), it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See *In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

The showings by the examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For ease of review, the analysis used to make findings should be made explicit. See *KSR Intern. Co. v. Teleflex Inc.*,

127 S.Ct. 1727, 1741, 82 U.S.P.Q.2d 1385, 1396 (2007) citing *In re Kahn*, 441, F.3d 977, 988, 78 USPQ2d 1329 (Fed. Cir. 2006) “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”.

If that burden is met, the burden then shifts to the applicant to overcome the *prima facie* case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole. See *id.*; *In re Hedges*, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986).

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). It follows that all of the words recited in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). In particular, the question of whether the claimed invention as a whole would have been obvious, and not just whether the differences would have been obvious, must be addressed. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

The meanings of the claim terms of the pending claims are to be "given their broadest reasonable interpretation consistent with the specification." See *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005).

As summarized in MPEP § 2142.01, excerpts provided below, the proposed combination cannot render the prior art unsatisfactory for its intended purpose or change the principle operation of a reference.

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.).

C. Claims 1-3, 7-11, and 17-19 satisfy the requirements of clearness and definiteness and are in compliance with 35 U.S.C. § 112, second paragraph

Reversal of the rejection of claims 1-3, 7-11, and 17-19 is respectfully requested, on the basis that the recitation of a direction "orthogonal to the opposed direction" is clear and definite to a person having ordinary skill in the art in view of the description in the specification and drawings as originally filed.

As described in the specification as originally filed, at least in paragraph [0006] on page 2, lines 13-26, and as shown in Figs. 3, 5, 7, and 9 as originally filed, a plurality of slide portions 61 are positioned in an opposed relationship across the plug member 12 in a direction identified as "an opposed direction." The opposed direction is also referred to as the second radial direction, and the opposed direction is identified in Figs. 3, 5, 7, and 9 with reference numeral D2 (see also specification paragraph [0088]). Thus, the meaning of the recitation of the opposed direction is clear to a person having ordinary skill in the art.

Further, as also described in the specification as originally filed, at least in paragraph [0006] on page 2, lines 13-26, in paragraph [0082], and as shown in Figs. 3,

5, 7, and 9 as originally filed, the slide portions 61 are movable in a first radial direction, identified as a direction “orthogonal to the opposed direction.” The direction orthogonal to the opposed direction is identified in Figs. 3, 5, 7, and 9 with reference numeral D1. The direction D1 is clearly shown in Figs. 3, 5, 7, and 9 to be oriented at ninety degrees with respect to the “opposed direction” D2. Further, the word “orthogonal” has its ordinary meaning, and as is understood by a person having ordinary skill in the art, refers in this context to directions that are oriented or intersecting at right angles with respect to each other.

As will be understood by a review of the specification and drawings, with particular reference to at least Figs. 2 and 3, the slide portions 61 do not “radially expand” like a split ring, but rather, the slide portions 61 slide along slide outer surface 64, via engagement with slide surfaces 63 of the slide portions 61, in the direction D1 to accommodate misalignment between the axes of the plug and the hole of the workpiece or pallet. Thus, the recitation in claim 1 of slide portions opposed to each other across the plug member in an opposed direction and arranged for movement in a first radial direction substantially orthogonal to the opposed direction thereof is clear and definite to a person having ordinary skill in the art.

Accordingly, it is respectfully submitted that the recitation in claim 1 of a direction “orthogonal to the opposed direction” is clear and definite to a person having ordinary skill in the art, and reversal of this rejection is respectfully requested.

D. The proposed combination of the Yonezawa publication and the Obrecht patent does not amount to a *prima facie* case of obviousness with respect to claim 1

The discussion below is focused on the apparatus of independent claim 1. The dependent claims 2, 3, 7, 9, 11, and 17-19 stand or fall with independent claim 1.

Reversal of the rejection of claim 1 is respectfully requested on the basis that the Yonezawa publication and the Obrecht patent, whether considered individually or collectively, fail to disclose or suggest every feature of the positioning apparatus according to claim 1.

As will be discussed below, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent fails to disclose at least a *second* pressing member that is diametrically expandable and contractible or a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, all as required by pending claim 1.

Accordingly, claim 1 is patentable in view of the proposed combination of teachings of the *Yonezawa* publication and the *Obrecht* patent, since the proposed combination of these references does not constitute a case of *prima facie* obviousness.

By way of review, the embodiment of claim 1 requires a positioning apparatus that includes a plug member projecting from a first block and adapted for insertion into a positioning hole in a second block. A plurality of slide portions are arranged around the plug member and are opposed to each other across the plug member in an opposed direction. The slide portions are arranged for movement in a first radial direction that is substantially orthogonal to the opposed direction. A first pressing member is arranged outside the slide portions in a diametrically expandable and contractible, and an axially movable manner. A second pressing member is arranged outside the slide portions and inside the first pressing member in a diametrically expandable and contractible, and an axially movable manner. The first pressing member is arranged to be driven toward the first block by a drive arrangement such that the slide portions expand the first pressing member in a second radial direction, different from the first radial direction.

The proposed combination of the *Yonezawa* publication and the *Obrecht* patent fails to disclose at least a *second* pressing member that is diametrically expandable and contractible or a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, all as required by pending claim 1.

Turning first to the *Yonezawa* publication, the structures identified by reference numeral 13 in the *Yonezawa* publication are slant outer surfaces 13

(paragraph [0046]), and cannot be considered slide portions as recited in pending claim 1 since the slant outer surfaces 13, while arranged across a plug member 12 (paragraph [0046]) in an opposed direction (Figs. 3A, 3B), do not move in a first radial direction that is substantially orthogonal to the opposed direction.

If the slant outer surfaces 13 are modified to radially expand outward, as is suggested to be an obvious modification in the Office action dated August 6, 2008, on page 5, this structure would still not disclose slide portions that move in a first radial direction that is substantially orthogonal to the opposed direction, but rather, would disclose surfaces 13 that move in the same direction as the opposed direction.

Specifically, the slide portions recited in pending claim 1 slide in an orthogonal direction with respect to the direction in which the slide portions are arranged in an opposed configuration. In other words, the slide portions do not “radially expand,” but rather slide in a radial direction that is orthogonal to the opposed direction. A reconfiguration of the slant outer surfaces 13 of the *Yonezawa* publication to radially expand will simply provide surfaces that move in the *same* direction as the opposed direction, and not in a radial direction that is *orthogonal* to the opposed direction, as is required by pending claim 1.

Accordingly, even if such a modification were made to the slant outer surfaces 13 to provide radial expansion, the *Yonezawa* publication would still fail to disclose a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as is required by pending claim 1.

Further, the *Yonezawa* publication discloses an annular intermediate member 15 arranged around the plug member 12 (paragraph [0047]). The intermediate member 15 has an inner periphery that includes three slant inner surfaces 17 opposed to the slant outer surfaces 13 of the plug member 12 (paragraph [0049]). Three metal balls 18, or rolling members, or cylindrical or spherical rolling members, are inserted between the respective slant outer surfaces 13 and the slant inner surfaces 17

(paragraph [0050]). In use, the slant inner surfaces 17 make a wedging engagement with the slant outer surfaces 13 through the balls 18 (paragraph [0057]).

While there is a possibility that the balls 18 may move radially outwardly and axially along the slant inner surfaces 17, the balls 18 do not diametrically expand and contract, as is required of the second pressing member recited in claim 1.

Additionally, while the annular intermediate member 15 of the *Yonezawa* publication is capable of diametrically expanding and contracting, the Office action dated August 6, 2008, on page 3, has identified the annular intermediate member 15 as corresponding to the first pressing member recited in pending claim 1. Thus, the annular intermediate member 15 cannot also be considered as a second pressing member as recited in pending claim 1.

Thus, the *Yonezawa* publication fails to disclose at least, a *second* pressing member that is diametrically expandable and contractible or a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, all as required by pending claim 1.

The *Obrecht* patent is provided to cure the above deficiencies of the *Yonezawa* publication, however, as will be discussed below, the *Obrecht* patent fails to provide for the shortcomings of the *Yonezawa* publication.

The *Obrecht* patent describes an adjustable base assembly that is provided to adjust the horizontal and vertical position of a fabrication tool by use of a movable carriage assembly that can move horizontally and includes wedging structures to vertically adjust a surface (abstract; col. 1, lines 30-66).

Specifically, the *Obrecht* patent describes a lower wedge plate assembly 12 with a lower wedge plate 30, an upper wedge plate assembly 18 with an upper wedge plate 60, and a pair of wedge blocks 20, 21. The lower wedge plate 30 includes an upper surface 30a defining a pair of upwardly converging wedge faces 30b that converge at an apex 30c (col. 3, lines 25-27). The upper wedge plate 60 includes a

lower surface 60a defining a pair of downwardly converging wedge faces 60b converging at an apex 60c (col. 4, lines 25-27). Each wedge block 20, 21 includes converging upper and lower wedge faces 20d, 21d, and 20e, 21e that are inclined from the horizontal at an angle equal to the angle of inclination of the wedge faces 30b and 60b of the lower and upper wedge plates (col. 4, lines 38-45). Each wedge block includes a threaded bore and receives a vertical adjustment screw 70 therein.

The wedge blocks are sandwiched between the upper and lower wedge plates with their lower wedge faces 20e, 21e in sliding engagement with a respective wedge face 30b of the lower wedge plate and the upper wedge faces 20d, 21d in sliding engagement with the wedge faces 60b of the upper wedge plate (col. 5, lines 22-29).

By adjusting the screw 70 via a control knob, the wedge blocks can be slid axially closer together or spaced further apart, such that the upper and lower wedge plates can be pushed apart or brought closer together (col. 5, lines 48-61).

There is no disclosure, however, that the wedge blocks 20, 21 are diametrically expandable and contractible, as is required of the second pressing member recited in claim 1.

Additionally, if the sliding wedge blocks 20, 21 of the *Obrecht* patent were used in place of the rolling balls 18 of the *Yonezawa* publication, the positioning device of the *Yonezawa* publication would cease to function. Specifically, since the inner and outer slant surfaces of the *Yonezawa* publication have the same slanting orientation, the wedge shaped blocks of the *Obrecht* patent would not allow relative movement or clamping engagement between the inner and outer slant surfaces. Accordingly, there is no reason that a skilled artisan would have replaced the balls 18 of the *Yonezawa* publication with the wedge blocks 20, 21 of the *Obrecht* patent, since such a replacement would destroy the function of the positioning device of the *Yonezawa* publication.

Further, the *Yonezawa* publication specifically describes rolling members positioned between the inner and outer slant surfaces, and there is no reason that a skilled artisan would have replaced the rolling members of the *Yonezawa* publication

with the sliding members of the *Obrecht* patent, since again, as discussed above, such a change would destroy the function of the positioning device of the *Yonezawa* publication.

Additionally, the *Obrecht* patent fails to disclose a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as is required by pending claim 1.

Even if the lower wedge plate 30 of the *Obrecht* patent were to be considered as a slide member (as asserted in the Office action dated August 6, 2008 on page 4), there is no reason why a skilled artisan would add the lower wedge plate 30, and all of the associated structure required to move the wedge plate horizontally (see for example bearing assemblies 42, 44 and horizontal adjustment screw assembly 16), to the positioning device of the *Yonezawa* publication. In particular, there is simply no space between the balls 18 and the plug member of the *Yonezawa* publication in which to place all of the necessary structure to allow the wedge plate of the *Obrecht* patent to move horizontally.

Further, there is particularly no reason to provide a plurality of lower wedge plates, and all of the associated structure required to move the wedge plate horizontally, to the positioning device of the *Yonezawa* publication since there is simply no space for even a single wedge plate and associated structure between the balls 18 and the plug member of the *Yonezawa* publication. And, absent the improper hindsight use of the applicants' own disclosure, there is no reason to provide any slide members to the positioning device of the *Yonezawa* publication.

Contrary to the assertion on pages 5 and 6 of the Office action dated August 6, 2008, a person having ordinary skill in the art would not "merely substitute one form of expansion for another" by replacing the balls 18 of the *Yonezawa* publication with the wedges of the *Obrecht* patent. Instead, the entire expansion structure of the *Obrecht* patent, including the adjustment screws and knobs are required for the expansion structure of the *Obrecht* patent to properly function. Thus, the entire

expansion structure of the *Obrecht* patent, including the adjustment screws, knobs, and support plates would need to be added to the positioning device of the *Yonezawa* publication. This proposed combination is simply unworkable, since the plug member 12, the slant outer surfaces 13, the balls 18, and the intermediate annular member 15 are all positioned within the positioning hole 5 of the movable member 3 of the *Yonezawa* publication during positioning.

Thus, there is no way a user would be able to actuate the necessary control knobs and adjustment screws of the expansion structure of the *Obrecht* patent if such structure were added to the positioning device of the *Yonezawa* publication. Accordingly, a person having ordinary skill in the art would not have modified the positioning device of the *Yonezawa* publication with the expansion structure of the *Obrecht* patent, since the expansion structure of the *Obrecht* patent as placed within the hole 5 of the movable member 3 of the *Yonezawa* publication would not provide the desired expansion, since a user would not be able to manipulate the control knobs.

Further still, even if such a combination were made, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent would still fail to disclose at least a *second* pressing member that is diametrically expandable and contractible and a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as is required by pending claim 1.

As discussed above, each of the *Yonezawa* publication and the *Obrecht* patent fail to disclose a *second* pressing member that is diametrically expandable or a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as required by pending claim 1. Thus, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent must also fail to disclose a *second* pressing member that is diametrically expandable and a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction.

Further, a skilled artisan would not have had any reason to combine the entire structure of the wedge assembly of the *Obrecht* patent (as would be necessary for the expansion structure to properly function) with the positioning device of the *Yonezawa* publication for the reasons discussed above.

Accordingly, each of the *Yonezawa* publication and the *Obrecht* patent fails to disclose or suggest at least, a *second* pressing member that is diametrically expandable and contractible or a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, all as required by pending claim 1.

Therefore, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent fails to disclose at least, a *second* pressing member that is diametrically expandable and contractible or a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, all as required by pending claim 1.

For at least this reason, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent fails to establish a *prima facie* case of obviousness with respect to claim 1, and reversal of this rejection is respectfully requested.

The remaining pending claims 2, 3, 7, 9, 11, and 17-19, which depend from claim 1, contain all of the elements of claim 1, as well as their respective recited features. Accordingly, since the proposed combination of the *Yonezawa* publication and the *Obrecht* patent fails to establish a *prima facie* case of obviousness with respect to claim 1, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent fails to establish a *prima facie* case of obviousness with respect to claims 2, 3, 7, 9, 11, and 17-19, and reversal of this rejection is respectfully requested.

- E. The *Haruna* patent does not cure the deficiencies of the proposed combination of the *Yonezawa* publication and the *Obrecht* patent with respect to claim 1, and therefore, does not amount to a *prima facie* case of obviousness with respect to claims 8 and 10

The discussion below is focused on the apparatus of dependent claims 8 and 10, which include all the features of independent claim 1, as discussed above.

Reversal of the rejection of claims 8 and 10 is respectfully requested on the basis that the *Haruna* patent does not cure the deficiencies of the proposed combination of the *Yonezawa* publication and the *Obrecht* patent with respect to claim 1, and thus the proposed combination fails to disclose or suggest every feature of the positioning apparatus according to claims 8 and 10.

As will be discussed below, the *Haruna* patent does not cure the deficiencies of the proposed combination of the *Yonezawa* publication and the *Obrecht* patent with respect to claim 1, from which claims 8 and 10 depend.

Accordingly, claims 8 and 10 are patentable in view of the proposed combination of teachings of the *Yonezawa* publication and the *Obrecht* patent and the *Haruna* patent, since the proposed combination of these references does not constitute a case of *prima facie* obviousness with respect to claim 1, from which claims 8 and 10 depend.

By way of review, the embodiments of claims 8 and 10 require all of the features of pending claim 1, as discussed above.

As discussed in detail above, the *Yonezawa* publication and the *Obrecht* patent fail to disclose every feature of pending claim 1. Specifically, the *Yonezawa* publication and the *Obrecht* patent fail to disclose a *second* pressing member that is diametrically expandable or a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as required by pending claim 1.

The *Haruna* patent also fails to disclose a *second* pressing member that is diametrically expandable or a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as required by pending claim 1.

In particular, the *Haruna* patent, similarly to the *Yonezawa* publication, discloses engaging balls 34 that are received within through holes 33 in a transmission sleeve 31. Since the holes 33 that the engaging balls 34 are received in allow the engaging balls 34 to move only in an opposed radial direction, the engaging balls 34 cannot be considered to be a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction.

The *Haruna* patent also discloses a shuttle member 23 that can diametrically expand and contract. While the shuttle member 23 may be considered to correspond to the first pressing member recited in pending claim 1, there is no disclosure in the *Haruna* patent of a *second* pressing member, as is required by pending claim 1.

Thus, none of the *Yonezawa* publication and the *Obrecht* patent and the *Haruna* patent disclose a *second* pressing member that is diametrically expandable or a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as required by pending claim 1.

Since none of the *Yonezawa* publication and the *Obrecht* patent and the *Haruna* patent disclose a *second* pressing member that is diametrically expandable or a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as required by pending claim 1, these features are also not disclosed by the proposed combination of the *Yonezawa* publication and the *Obrecht* patent and the *Haruna* patent.

For at least this reason, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent and the *Haruna* patent fails to establish a *prima facie* case of

obviousness with respect to claim 1, from which claims 8 and 10 depend, and reversal of this rejection is respectfully requested.

VIII. Conclusion

For the reasons set forth above, claims 1-3, 7-11, and 17-19 of the pending application are clear and definite and comply with the requirements of 35 U.S.C. § 112, second paragraph and define subject matter that is not rendered *prima facie* obvious within the meaning of 35 U.S.C. § 103(a) by the proposed combination of the *Yonezawa* publication and the *Obrecht* patent or the further combination of the *Yonezawa* publication and the *Obrecht* patent with the *Haruna* patent.

Reversal of the rejections of claims 1-3, 7-11, and 17-19 is respectfully requested.

The Fee required by 37 C.F.R. § 1.17(c) was submitted on February 27, 2009. The Office is authorized to charge any additional fees associated with this communication to Deposit Account No. 02-0200.

BACON & THOMAS, PLLC
625 Slaters Lane, Fourth Floor
Alexandria, Virginia 22314-1176
Phone: (703) 683-0500
Facsimile: (703) 683-1080

Date: May 6, 2009

Respectfully submitted,

/Patrick M. Buechner, Reg. #57,504/

PATRICK M. BUECHNER
Attorney for Applicants
Registration No. 57,504

IX. CLAIMS APPENDIX

Claim 1. A positioning apparatus, comprising

a plug member projecting from a first block and adapted for insertion into a positioning hole formed in a second block,

a plurality of slide portions opposed to each other across the plug member in an opposed direction and arranged around the plug member for movement in a first radial direction substantially orthogonal to the opposed direction thereof,

a first pressing member diametrically expandably and diametrically contractibly and axially movably within a predetermined range arranged outside the slide portions,

a second pressing member diametrically expandably and diametrically contractibly and axially movably within a predetermined range arranged outside the slide portions and inside the first pressing member,

wherein the first pressing member is arranged to be driven toward the first block by a drive arrangement, such that the slide portions expand the first pressing member in a second radial direction different from the first radial direction, and such that the slide portions are moved in the first radial direction with respect to the plug member.

Claim 2. The positioning apparatus as set forth in claim 1, including

an inclined outer surface formed on the second pressing member,

an inclined inner surface enabling a tapering engagement with the inclined outer surface formed on the first pressing member,

an axially movable drive member arranged to be inserted into the plug

member, said drive member connected to the first pressing member,

said drive member being arranged to move the first pressing member toward the first block for locking to expand the first pressing member in the second radial direction by the tapering engagement and to bring the first pressing member into close contact with an inner peripheral surface of the positioning hole, and

said drive member being also arranged to move the first pressing member toward a leading end for releasing the diametrically expanded condition of the first pressing member and thus releasing the closely contacted condition.

Claim 3. The positioning apparatus as set forth in claim 1, including
an advancing arrangement configured to advance the second pressing member toward a leading end.

Claim 7. The positioning apparatus as set forth in claim 1, wherein
the first pressing member is formed in an annular shape.

Claim 8. The positioning apparatus as set forth in claim 7, wherein
a slit is formed in the first pressing member,
said slit enabling the first pressing member to deform in a diametrically
expanding direction and a diametrically contracting direction.

Claim 9. The positioning apparatus as set forth in claim 1, wherein
the second pressing member is formed in an annular shape.

Claim 10. The positioning apparatus as set forth in claim 9, including
a slit formed in the second pressing member, said slit enabling the second
pressing member to deform in a diametrically expanding direction and a diametrically
contracting direction.

Claim 11. The positioning apparatus as set forth in claim 9, including
gaps disposed between the second pressing member and the plug member in
the first radial direction.

Claim 17. The positioning apparatus as set forth in claim 1, wherein
the drive arrangement is configured to move the second block toward a base
end via the first pressing member such that the first pressing member comes into close
contact with an inner peripheral surface of the positioning hole, and presses a
supported surface of the second block against a support surface of the first block.

Claim 18. A clamping system, comprising
the positioning apparatus as set forth in claim 1.

Claim 19. A clamping system, comprising
a plurality of positioning apparatuses, wherein at least one of which is a
positioning apparatus as set forth in claim 1.

X. EVIDENCE APPENDIX

There are no copies of evidence entered and relied upon in this appeal
of the pending application.

XI. RELATED PROCEEDINGS APPENDIX

There are no related proceedings or decisions rendered by a court or the Board of Appeals in any proceeding identified in the related appeals and interferences section in the pending application.